

Complete Summary

GUIDELINE TITLE

Medication-assisted treatment for opioid addiction in opioid treatment programs:
Associated medical problems in patients who are opioid addicted.

BIBLIOGRAPHIC SOURCE(S)

Associated medical problems in patients who are opioid addicted. In: Batki SL, Kauffman JF, Marion I, Parrino MW, Woody GE, Center for Substance Abuse Treatment (CSAT). Medication-assisted treatment for opioid addiction in opioid treatment programs. Rockville (MD): Substance Abuse and Mental Health Services Administration (SAMHSA); 2005. p. 161-78. (Treatment improvement protocol (TIP); no. 43).

GUIDELINE STATUS

This is the current release of the guideline.

** REGULATORY ALERT **

FDA WARNING/REGULATORY ALERT

Note from the National Guideline Clearinghouse: This guideline references drugs for which important revised regulatory and/or warning information has been released.

On April 7, 2005, after concluding that the overall risk versus benefit profile is unfavorable, the FDA requested that Pfizer, Inc voluntarily withdraw Bextra (valdecoxib) from the market. The FDA also asked manufacturers of all marketed prescription nonsteroidal anti-inflammatory drugs (NSAIDs), including Celebrex (celecoxib), a COX-2 selective NSAID, to revise the labeling (package insert) for their products to include a boxed warning and a Medication Guide. Finally, FDA asked manufacturers of non-prescription (over the counter [OTC]) NSAIDs to revise their labeling to include more specific information about the potential gastrointestinal (GI) and cardiovascular (CV) risks, and information to assist consumers in the safe use of the drug. See the [FDA Web site](#) for more information.

Most recently, on June 15, 2005, the FDA requested that sponsors of all non-steroidal anti-inflammatory drugs (NSAID) make labeling changes to their products. FDA recommended proposed labeling for both the prescription and over-the-counter (OTC) NSAIDs and a medication guide for the entire class of prescription products. All sponsors of marketed prescription NSAIDs, including Celebrex (celecoxib), a COX-2 selective NSAID, have been asked to revise the labeling (package insert) for their products to include a boxed warning,

highlighting the potential for increased risk of cardiovascular (CV) events and the well described, serious, potential life-threatening gastrointestinal (GI) bleeding associated with their use. FDA regulation 21CFR 208 requires a Medication Guide to be provided with each prescription that is dispensed for products that FDA determines pose a serious and significant public health concern. See the [FDA Web site](#) for more information.

COMPLETE SUMMARY CONTENT

** REGULATORY ALERT **

SCOPE

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RECOMMENDATIONS

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BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

QUALIFYING STATEMENTS

IMPLEMENTATION OF THE GUIDELINE

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT

CATEGORIES

IDENTIFYING INFORMATION AND AVAILABILITY

DISCLAIMER

SCOPE

DISEASE/CONDITION(S)

Medical problems associated with opioid addiction including:

- Acute, life-threatening infection (e.g., cellulitis, wound botulism, necrotizing fasciitis, endocarditis)
- Human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS)
- Tuberculosis
- Sexually transmitted diseases (STDs), such as syphilis, chlamydia, and gonococcus infections
- Hepatitis A, hepatitis B, and hepatitis C
- Disabilities
- Acute and chronic pain

GUIDELINE CATEGORY

Evaluation
Management
Prevention
Screening
Treatment

CLINICAL SPECIALTY

Family Practice
Infectious Diseases
Internal Medicine

Psychiatry
Psychology

INTENDED USERS

Nurses
Physicians
Psychologists/Non-physician Behavioral Health Clinicians
Social Workers
Substance Use Disorders Treatment Providers

GUIDELINE OBJECTIVE(S)

- To identify medical problems commonly encountered in people addicted to opioids
- To discuss the treatment of associated medical problems in opioid treatment programs (OTPs)
- To note important considerations in deciding which medical services will be provided in an OTP and which can best be performed as a referred service
- To discuss medical screening and diagnostic services that are required by Federal and State regulations or Substance Abuse and Mental Health Services Administration accreditation guidelines that should be available in or through OTPs

TARGET POPULATION

Patients who are opioid addicted and who have associated medical problems

INTERVENTIONS AND PRACTICES CONSIDERED

Screening and Assessment

1. Routine testing and follow up (every 6 to 12 months) for hepatitis A, B, and C; syphilis and other sexually transmitted diseases; tuberculosis; human immunodeficiency virus (HIV) infection; hypertension; and diabetes
2. Routine evaluation of liver and kidney function tests
3. Annual physical examinations
4. Evaluation for acute, life-threatening infections such as:
 - Endocarditis
 - Soft tissue infections
 - Necrotizing fasciitis
 - Wound botulism
5. Evaluation for infectious diseases including:
 - Hepatitis A, B, and C
 - Syphilis and other sexually transmitted diseases (STDs)
 - Tuberculosis (TB)
 - Human immunodeficiency virus (HIV) infection

Prevention and Treatment

1. Integrated versus referral services

2. Vaccination for hepatitis A and B
3. Counseling and treatment for hepatitis C, including treatment with pegylated interferon alpha-1 or alpha-2a and ribavirin
4. Treatment of syphilis and other sexually transmitted diseases (STDs)
5. Prevention of TB transmission in medication-assisted treatment (MAT) facilities and treatment of TB with isoniazid and vitamin B6
6. Prevention of HIV infection through education of staff
7. Making informed decisions about methadone dosages based on interaction with HIV medications
8. Treatment referral for HIV infection
9. Management of patients with neurological complications of AIDS
10. Home dosing for patients with disabilities
11. Pain management
 - Acute pain
 - Chronic pain
 - Methadone schedule adjustment
 - Additional opioids
12. Hospitalization of patients in medication-assisted treatment for opioid addiction (MAT)
13. Care of patients with general medical conditions and MAT

MAJOR OUTCOMES CONSIDERED

- Side effects of treatments
- Interactions of drugs
- Treatment effectiveness
- Relapse rate
- Pain control

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
 Hand-searches of Published Literature (Secondary Sources)
 Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The literature search involved careful consideration of all relevant clinical and health services research findings, practice experience, and implementation requirements.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

After selecting a topic, Center for Substance Abuse Treatment (CSAT) invites staff from pertinent Federal agencies and national organizations to be members of a resource panel that recommends specific areas of focus as well as resources that should be considered in developing the content for the Treatment Improvement Protocols (TIP). These recommendations are communicated to a consensus panel composed of experts on the topic who have been nominated by their peers. This consensus panel participates in a series of discussions. The information and recommendations on which they reach consensus form the foundation of the TIP. The members of each consensus panel represent substance abuse treatment programs, hospitals, community health centers, counseling programs, criminal justice and child welfare agencies, and private practitioners. A panel chair (or co-chairs) ensures that the contents of the TIP mirror the results of the group's collaboration.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

A large and diverse group of experts closely reviews the draft document. Once the changes recommended by these field reviewers have been incorporated, the

Treatment Improvement Protocol (TIP) is prepared for publication, in print and on line.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Integrated Versus Referral Services

The consensus panel believes that many medical problems associated with opioid addiction should be treated either within the opioid treatment program (OTP) or through liaisons with outside specialists and programs.

Integrating medical and addiction treatments is both a challenge and an opportunity to match strategies for more cost-effective interventions. Medical services for at least the most common problems (such as soft-tissue infections, hepatitis, human immunodeficiency virus [HIV] infection, hypertension, diabetes, and chronic obstructive pulmonary disease [COPD]) should be provided at the OTP with expansion to other medical services as resources permit.

The consensus panel recommends that each OTP clearly define the medical services it offers on site versus by referral. Safety, practicality, and efficacy are important considerations in these decisions. For example, patients needing treatment for acute conditions such as bacterial endocarditis, those needing treatment for severe liver disease, or those requiring obstetric and gynecologic services generally are referred to primary or specialty care providers because most OTPs lack the resources to provide those services. The panel recommends that OTPs establish sound links with medical providers and programs skilled in treating problems that go beyond the direct services of the OTPs.

It is important for patients to understand an OTP's policies regarding services provided on site versus by referral. For example, an OTP might offer testing for infectious diseases but refer patients for treatment of these diseases. Such distinctions, as well as whether and how staff members will follow up to ensure that patients comply with offsite treatment, should be clear. Referral services should be part of a patient's opioid addiction treatment plan. The consensus panel recommends that primary care responsibility be established either on site or through a community provider because specialists are more likely to accept patients if their primary care responsibility has been assigned. OTPs also should inform local hospitals about their services and willingness to provide medical information (e.g., dosage information for addiction treatment medications, assuming a patient's informed consent) when a patient in medication-assisted treatment for opioid addiction (MAT) is admitted to a hospital for medical treatment.

In many cases, patients need help to understand their testing and treatment experiences at other sites, and they may feel uncomfortable asking offsite providers questions. OTP staff should be ready to help patients understand procedures and care received off site and what these experiences mean for their overall care.

Routine Testing and Follow-up for Medical Problems

Because medical problems associated with opioid abuse sometimes emerge or are resolved during medication-assisted treatment for opioid addiction (MAT), OTPs should establish protocols for both assessment of acute problems and periodic reassessments. The consensus panel recommends periodic (every 6 to 12 months) testing for hepatitis A, B, and C; syphilis and other sexually transmitted diseases (STDs); tuberculosis (TB); HIV infection; hypertension; and diabetes. Liver and kidney functions also should be evaluated routinely. With the exception of HIV testing, these tests can be performed during routine evaluation. HIV testing requires a patient's written permission, along with counseling before and after the test. Some OTPs repeat physical examinations annually, and others do so every 2 years. The consensus panel believes that physical examinations of patients in MAT should be performed at least annually. Tuberculin skin tests should be performed every 6 to 12 months, depending on the epidemiology of the region and recommendations from public health authorities.

Acute, Life-Threatening Infections

OTP medical staff, in particular those performing intake assessments, should recognize most potentially life-threatening infections related to opioid abuse. Some of these conditions can mimic opioid or intoxication withdrawal. In many cases, patients may be unaware of the severity of their conditions or may attribute their symptoms to withdrawal. Because patients are focused on avoiding withdrawal, their descriptions of their histories may be unhelpful. The most common of these life-threatening conditions are discussed below.

Endocarditis

Endocarditis is an infection, usually bacterial, of the inner lining of the heart and its valves. A diagnosis of possible endocarditis should be considered in any patient with recent injection marks and fever or a newly appearing heart murmur. A history of previously treated endocarditis might produce persistent heart murmur. Patients who have survived endocarditis by having a valve replacement are at increased risk of recurrent endocarditis. Fever in patients with a heart murmur always merits careful clinical investigation.

Soft-Tissue Infections

Soft-tissue infections, such as abscesses and cellulitis, involve inflammation of skin and subcutaneous tissue, including muscle. Contaminated injection sites often swell and become tender. When swelling and tenderness persist, infection is likely. A fluctuant abscess might need incision and drainage. Depending on its severity, cellulitis may require treatment with intravenous antibiotics. Patients with abscesses or cellulitis might not have fever.

Necrotizing Fasciitis

Necrotizing fasciitis, sometimes called flesh-eating infection, usually is caused by introduction of the bacterium *Streptococcus pyogenes* into subcutaneous tissue via a contaminated needle. It is uncommon, and cases caused by other bacteria

also have been reported. The infection spreads along tissue planes and can cause death from overwhelming sepsis within days without much evidence of inflammation. Some patients may lose large areas of skin, subcutaneous tissue, and even muscle, requiring grafting. Case fatality rates from 20 to more than 50 percent have been reported. This infection should be considered when pain at an injection site is more severe than expected from the redness or warmth at the site. Edema (fluid accumulation and swelling), fever, hypotension, and high white blood cell counts are additional clues. Treatment includes extensive debridement (cutting away of infected tissue) and intravenous antibiotics. Earlier ingestion of antibiotics, especially if these antibiotics were unprescribed, may result in partial treatment of necrotizing fasciitis and modify its diagnosis and course.

Wound Botulism

Botulism is caused by the neurotoxin of *Clostridium botulinum*, a bacterium usually found in contaminated food. Botulism causes loss of muscle tone, including respiratory muscle weakness, making it life threatening. The presenting symptoms and signs--difficulty swallowing (dysphagia), difficulty speaking (dysphonia), blurred vision, and impaired body movements (descending paralysis)--may mimic signs of intoxication.

Infectious Diseases

Some infectious diseases that are prevalent among patients in MAT, including TB, viral hepatitis, HIV infection, and STDs, are monitored closely by the Centers for Disease Control and Prevention (CDC), which provides recommendations about testing, evaluation, classification, and treatment and publishes surveillance data. This information changes periodically, and the most recent data can be obtained from [CDC's Web site](#) and its publications.

TB

Public health statutes in all States require that the U.S. Public Health Service be notified of all cases of known or suspected active TB. State and Federal laws mandate appropriate follow-up and treatment of anyone whose TB might have been acquired from known exposure to an individual with active TB.

Frequency and Types of Testing

The consensus panel recommends that patients in MAT be screened for TB every 12 months unless local epidemiology and transmission patterns and the recommendations of local health authorities indicate that more frequent testing is needed. High-risk groups, for example, patients still injecting drugs and health care workers who must treat them, should be screened more frequently (e.g., every 6 months). New staff members should be screened for TB, and all staff members should be retested regularly, depending on local prevalence. Patients should receive a purified protein derivative (PPD) skin test for TB both on admission and annually, unless local health authorities indicate that more frequent testing is needed or patients are known to be PPD positive. In addition, treatment providers should look for and question patients about other symptoms of active TB, such as persistent cough, fever, night sweats, weight loss, and fatigue. OTPs should use the Mantoux test, which injects five tuberculin units of PPD

intradermally. Patients who are HIV positive are considered PPD positive if an induration of 5 mm or more appears. Those who are HIV negative are considered PPD positive if an induration of 10 mm or more appears. The standard classification system for TB is shown in Exhibit 10-1 of the original guideline document.

Positive PPD

The PPD skin test detects the immune response when a patient has been infected with TB. However, patients who have received a Bacillus Calmette-Guerin (usually called BCG) vaccination will have a positive PPD, and a chest x ray is indicated. Infections need not be active to be detected. Earlier infections controlled by the immune system are inactive, but they cause positive test results. In these cases, patients do not have symptoms of TB, and chest x rays show no evidence of active TB. These patients are considered to have class 2 TB and should receive prophylaxis with isoniazid to prevent later activation of infection. Patients with class 2 TB do not transmit the disease. Those who have a history of exposure (e.g., when a family member has TB) but remain uninfected (i.e., their skin tests are negative) are considered to have class 1 TB and sometimes are treated prophylactically.

The consensus panel recommends following CDC guidelines on frequency of chest x rays for patients in MAT who are PPD positive. The medical staff should facilitate referrals for such patients to be evaluated at appropriate facilities (e.g., county TB clinics, affiliated or local hospitals, patients' private physicians) and should ensure necessary follow-up.

Negative PPD

A negative PPD means one of three things: there is no TB infection (class 0), the infection is in the incubation period, or the patient is unable to respond to the skin test (i.e., is anergic). Because many patients who are immunocompromised and HIV infected are immunologically anergic, chest x rays are considered a routine part of their HIV care.

Prevention of TB in MAT

Adequate room ventilation is important for TB prevention. Special attention should be paid to waiting rooms, corridors, and offices. Patients with active TB who are coughing in an unventilated room are most likely to spread the disease and should receive masks or special precautions should be taken to prevent transmission pending medical evaluation. OTP staff should be educated about this risk. Patients diagnosed with active TB are quarantined in a hospital when treatment begins and generally are not released until their sputum tests revert to negative. Undiagnosed cases of TB increase the exposure risk in communities; therefore, aggressive evaluation and screening are crucial.

Treatment of TB During MAT

Isoniazid is used with vitamin B6 for prophylaxis to prevent active TB. Isoniazid is combined with other medications when patients have active TB. In either case,

OTP staff members should monitor medication compliance actively to prevent the emergence of multidrug-resistant TB. Some patients may benefit from receiving their TB medication under direct observation along with their addiction treatment medication. However, directly observed treatment for eligible patients should be optional. Addiction treatment medications should not be withheld to ensure adherence to TB medications.

Isoniazid is effective in TB prevention but can cause liver toxicity. In view of the high prevalence of liver disease and hepatitis among patients in MAT, liver enzymes should be monitored during isoniazid therapy. A significant increase (i.e., doubling or more) in one or more liver enzymes (alanine aminotransferase or serum pyruvic transaminase, aspartate aminotransferase, or lactate dehydrogenase) suggests liver toxicity and warrants a thorough medical evaluation.

If rifampin is used to treat TB in patients receiving MAT, their addiction treatment medications should be adjusted carefully because rifampin accelerates clearance of methadone and other drugs metabolized by the liver. Rifabutin can be used as an alternative in patients receiving methadone. The methadone dose may need to be increased, split, or both.

STDs

Syphilis

The consensus panel recommends that all patients admitted to OTPs be tested at intake for syphilis with one of the serologic blood tests described by CDC, including the rapid plasma reagent or the Venereal Disease Reference Laboratory test. Because false positive results are common with nontreponemal serologic tests in people who inject drugs, all positive tests should be confirmed with a treponemal antigen test such as fluorescent treponemal antibody absorption or *Treponema pallidum* particle agglutination. Patients with a confirmed positive serologic test for syphilis need to receive treatment either on site or by referral to a local clinic, hospital, physician's office, or health department. Treatment of syphilis is particularly important because syphilis has been shown to facilitate sexual transmission of HIV.

Chlamydia and Gonococcus Infections

Genital chlamydia and gonococcus infections often go undetected and may facilitate the sexual transmission of HIV.

Although testing for sexually transmitted genital infections is recommended in OTPs, it often is ignored because it requires a full pelvic and genital examination. Increased availability of urine testing for STDs might enhance access to their treatment in patients receiving MAT.

Hepatitis

Hepatitis A

Hepatitis A is an important viral liver infection that affects people who abuse drugs at higher rates than rates found in the general population. Hepatitis A can cause serious morbidity and mortality in patients already infected with hepatitis B virus (HBV) or hepatitis C virus (HCV). OTPs should screen for hepatitis A virus (HAV) and provide vaccination services or referral to such services for individuals who are unexposed.

Hepatitis B

Testing is important to identify individuals with acute hepatitis B, those in chronic HBV carrier states, and those who are untreated but symptomatic for chronic active hepatitis B, as well as those unprotected from HBV infection who can be immunized. All patients in MAT should be tested on admission via blood tests for both anti-HBV core antibody and HBV surface antigen. If patients are positive for the surface antigen, further medical evaluation and counseling about avoiding transmission to others is important. Medical evaluation, including liver function testing, needs to be done on site or by referral.

Patients who are negative for core antibody and surface antigen should be advised of their susceptibility to HBV infection and vaccinated at the OTP if possible, although cost is a factor in most OTPs. Patients who are positive for HBV surface antibody either have been infected or were vaccinated and probably are protected.

All staff members risk exposure to HBV infection, especially those who do physical examinations or handle urine or blood specimens, and they should receive hepatitis B vaccine, according to Occupational Safety and Health Administration standards for blood-borne pathogens.

Hepatitis C

An estimated 70 to 90 percent of people who inject drugs have serologic evidence of exposure to HCV, which indicates that OTPs will treat some patients with chronic HCV infection. The most appropriate intervention depends on HCV stereotypic liver disease, alcohol consumption, and HIV status.

Testing for HCV

The consensus panel recommends that patients be tested by enzyme immunoassay for exposure to HCV. Testing should be simple and accessible on site. When HCV antibody test results are negative, it is important to educate patients about HCV's high transmissibility. The main method of transmission in this group is injection drug use. Hepatitis C is transmitted more than hepatitis A or B or HIV/AIDS.

Determination of HCV Disease Activity

A positive HCV antibody test indicates patient exposure to HCV. Further evaluation should determine whether HCV infection has self-resolved (cleared) or is chronic. Approximately 15 to 25 percent of patients exposed to HCV clear their infections. To determine whether HCV infection still is present, a test for HCV ribonucleic acid

is required. This test uses polymerase chain reaction and is costly, presenting a significant barrier for patients without health insurance. Detection of liver enzymes is a cheaper test but is insufficient to detect the virus.

The consensus panel recommends that OTPs provide patients who are HCV positive with advice on minimizing their risk of liver damage, as well as encouragement to be evaluated further. These patients should know that alcohol ingestion significantly worsens hepatitis C. They also should be tested and receive vaccinations for HAV and HBV infections if they have not been vaccinated. Because acute hepatitis A can be severe among HCV-infected patients, hepatitis A vaccination is recommended for all persons who are HCV infected. Many standard "hepatitis panel" blood tests include a test for HAV antibody. In addition, patients who are HCV-antibody positive should avoid high doses of acetaminophen because it can cause liver damage, and their HCV antibody status should be communicated to any physician prescribing medication so that liver-toxic drugs are avoided.

In contrast to HIV, the viral load of HCV does not correlate with its liver disease severity. For patients who have quantitative HCV, a complete evaluation of liver disease includes determination of liver enzymes and a liver biopsy. Virus genotyping is important if pharmacotherapy is considered because the results indicate the optimal length of treatment. Treatment decisions are not based on patients' symptoms but on HCV genotype, level of liver disease, co-occurring illnesses, and willingness to undergo treatment. A decision flowchart for evaluating patients for HCV exposure is given in Exhibit 10-2 of the original guideline document.

Treatment of Hepatitis C

The decision to treat patients in MAT for chronic hepatitis C infection is complex because it must include many factors, such as presence of co-occurring disorders, motivation to adhere to a 6- to 12-month weekly injection schedule, and medication side effects. Results of HCV genotyping (another expensive blood test) and a liver biopsy also must be considered. Counselors in OTPs can support patients who are deciding whether to undergo hepatitis C treatment. Patients with HCV infection who do not need treatment (minimal liver disease) may be concerned about liver disease progression. They should be informed that liver disease progresses to cirrhosis in 10 to 15 percent of cases and that its progression is more likely with alcohol consumption. Co-infection with HIV or other types of hepatitis also may be associated with higher risks of disease progression.

The duration of hepatitis C treatment depends on the virus genotype. Most patients are infected with genotype 1 virus and require approximately a year of treatment, consisting of polyethylene glycol (PEG) interferon-alpha combined with ribavirin. In genotype-2 and genotype-3 patients, 6 months of treatment usually is sufficient. The most effective interferon at this writing is pegylated interferon alpha-1 or alpha-2a. Treatment combines one interferon injection per week with ribavirin taken twice daily in capsule form for up to 1 year depending on viral subtype. Side effects include flu-like symptoms and depression. Ribavirin also can have numerous adverse effects, most notably anemia and neutropenia. Therefore, co-occurring disorders and anemia should be evaluated carefully before initiating

hepatitis C treatment. Pretreatment with antidepressants can be helpful to control treatment-induced depression. Some selective serotonin reuptake inhibitors can increase plasma levels of methadone or levo-alpha acetyl methadol (LAAM); therefore, patients receiving these medications should be observed for sedation or other effects of overmedication.

A National Institutes of Health consensus statement also encouraged hepatitis C treatment for patients who inject drugs:

Many patients with chronic hepatitis C have been ineligible for trials because of injection drug use, significant alcohol use, age, and a number of comorbid medical and neuropsychiatric conditions. Efforts should be made to increase the availability of the best current treatments to these patients.

Treatment effectiveness is measured by absence of detectable HCV after the treatment course and at 24 weeks after completion of treatment (sustained virologic response [SVR]).

Treatment choices are complex for patients who have not responded to hepatitis C infection treatment, have dropped out of treatment, or have been judged too ill or behaviorally disturbed for treatment. There is no consensus on whether treatment reinstatement might be beneficial or medical maintenance should be continued for partial responders.

Liver Transplant

Transplantation is a last recourse for patients with hepatitis C infection with end-stage liver disease. The consensus panel recommends that MAT providers become familiar with the policies of regional transplant centers and their acceptance requirements. Success in obtaining a transplant may depend on timeliness of action by a patient's extended treatment team. Patients receiving methadone, levo-alpha acetyl methadol (LAAM), or buprenorphine for opioid addiction may be barred from transplant programs or accepted only if they taper from their maintenance medication before transplantation. OTP medical staff members can serve as advocates for patients needing transplants. A common concern is that patients will be unable to comply with complicated care after their transplant. On the contrary, limited reports on transplantation in patients receiving MAT have shown excellent compliance with aftercare, although their outcomes were not compared with patients with no history of substance use.

HIV/Acquired Immune Deficiency Syndrome (AIDS)

Since the early 1990s, the prevalence of HIV infection has increased substantially in most of the United States among people who inject drugs. A 1998 survey by the American Methadone Treatment Association (now the American Association for the Treatment of Opioid Dependence) reported that approximately 25 to 30 percent of patients receiving methadone treatment in the United States were infected with HIV. In practical terms, these statistics mean that OTPs should be prepared to care for many patients who are HIV positive or have AIDS.

Testing for HIV infection

The U.S. Public Health Service and many State health departments recommend that HIV counseling and testing be routinely offered in drug or alcohol prevention and treatment programs, especially where most patients have injected drugs and therefore are at increased risk. "Routinely offered" means providing these services to all patients after informing them that the test can be done either on site or through referral. CDC also recommends that pretest counseling be required for all patients and that HIV testing be recommended strongly and viewed as a routine procedure. Individuals should be informed that they may decline this testing without losing health care or other services. Counseling and testing also should be made available to patients' acquaintances who might have been exposed to HIV.

The consensus panel further recommends that HIV counseling and testing be provided by the OTP at no cost. Either a trained employee or someone from an outside agency can provide counseling and testing services. Some States may have certification requirements. Many State health departments, as well as CDC, provide training or training materials for HIV counseling and testing. Standard tests include enzyme immunoassay for antibodies to HIV-1 and HIV-2 and confirmation by Western blot analysis. Several other tests are approved by the U.S. Food and Drug Administration (FDA), including tests using urine and saliva and rapid tests that give results in 10 to 60 minutes. These newer tests are for HIV-1 only, and positive tests are reconfirmed by Western blot. OraQuick also tests for HIV-2. Although HIV-2 is rare in the United States, testing for it still is recommended for blood bank donations and in special populations, such as immigrants from West Africa. There also is an FDA-approved home collection kit that allows a sample to be sent from home for testing.

Prevention of HIV Infection

Universal precautions to prevent the spread of HIV through contaminated bodily fluids should be followed in any OTP. The consensus panel recommends that staff members be educated about how HIV is transmitted both to avoid exposure and to reduce generally unfounded fears of contamination during daily interactions with patients such as counseling or shaking hands. Prevention should include a factual understanding of the highly charged, often panic-laden beliefs surrounding AIDS.

The panel believes that having an AIDS coordinator on staff as the resident expert, community liaison and educator, and patient resource is optimal in areas with high HIV prevalence. Education about HIV should be part of the intake process for all patients and should include a description of the modes of transmission (stressing sexual as well as needle-sharing transmission), assessment of risk status, guidelines for prevention, and the importance of HIV testing in prevention and intervention.

HIV Medications and Methadone

Some HIV medications, such as fluconazole, increase methadone levels, and others, such as nevirapine, efavirenz, and ritonavir, lower them. The authors of one study pointed out that decisions about raising or lowering methadone dosages for patients in MAT who are HIV positive should be based on observation during

the first month of any treatment change because some patients react differently than indicated by published information. If necessary, peak and trough blood levels can be drawn and split dosing provided accordingly.

Neurologic Complications of AIDS and Its Treatment

Pain from neuropathy is difficult to control with opioids alone, and some patients do better with gabapentin or antidepressants instead of, or in addition to, an increased methadone dosage or the addition of another opioid for breakthrough pain (see "Pain Management" below). Patients with AIDS-related dementia or loss of balance may become erratic and difficult to monitor in an OTP. For them, a referral for neuropsychological evaluation may be helpful to identify any cognitive deficits and effective ways to provide supportive care. As dementia worsens, patients with take-home privileges may lose methadone bottles or mistakenly take more than one daily dose. Patients who fall or are unsteady might be assumed erroneously to be intoxicated. Close cooperation between OTP staff and providers treating these patients for AIDS is key to managing patients with neurologic complications of AIDS.

Referral for Treatment

Most OTPs offer no onsite treatment for HIV because of its complexity and their limited resources. Referral usually should be made for medical assessment of patients who are HIV positive. A standard assessment may include a baseline CD4 T-cell count, viral load, and tuberculin skin test, along with updated immunizations. Based on the results, physicians should discuss the potential utility of antiviral therapy. Depending on the availability of medical services, referrals can be made to private physicians, infectious disease specialists, HIV early-intervention treatment programs, hospital-based clinics, or community health centers.

Benefits of Early Intervention

The benefits of early intervention to control HIV and opportunistic infections should be stated clearly to patients. Patients and treatment staff, including drug counselors, should discuss the importance of notifying patients' sex and needle-sharing partners, and staff members should offer help in this. Encouragement to continue in MAT or another form of addiction treatment is extremely important because addiction treatment participation may foster adherence to HIV treatment and lead to reductions in the spread of HIV.

Patients With Disabilities

OTPs increasingly must address the needs of disabled patients.

Home Dosing for Patients With Disabilities in MAT

Home dosing is an important option for patients whose disabilities preclude daily OTP visits. However, some patients are ineligible. For example, those with AIDS or other medical problems that affect neurological functioning may be unable to manage their medication without supervision. Others who are medically

compromised and continue to abuse substances usually are ineligible for take-home dosing. These patients pose major challenges for OTPs, and treating them requires creative planning.

Solutions vary from program to program and in different areas. For patients with disabilities who do not meet take-home eligibility criteria, home dosing sometimes can be negotiated under the emergency dosing provisions of Federal or State regulations. For example, some OTPs identify a responsible family member or significant support person to assist with dosing. With patient permission, these individuals can be educated about addiction treatment medications and made responsible for picking them up from the OTP, ensuring safe storage (e.g., locked boxes, limited key access), and administering them daily to these patients. For patients who cannot identify such people, OTPs might negotiate medication support through the Visiting Nurses Association or comparable programs that can assist in this process.

Some OTPs deliver medication directly to disabled patients' homes, but such arrangements may be impractical when patients live far from their OTPs, and delivery often is expensive. Switching from methadone to LAAM might ease the accessibility problem somewhat, but the future availability of LAAM is doubtful. Buprenorphine, with its longer duration of action, also might be considered.

Regardless of the strategy, meeting the needs of homebound patients is a challenge. Home dosing can be time consuming and expensive, and it introduces safety and security problems. Consideration should be given to negotiating with pharmacies or interested physicians who can work directly with OTPs to provide home dosing in geographically remote areas. The consensus panel encourages OTP administrators to engage in discussions with their State agencies, the U.S. Drug Enforcement Administration (DEA), Food and Drug Administration (FDA), and other Federal and local agencies to develop creative solutions.

Pain Management

Patients in MAT have been shown to have high rates of acute and chronic pain. Medical treatment providers, accrediting bodies, and the popular press have focused considerable attention on the need for adequate pain treatment, particularly to relieve chronic, nonmalignant pain or pain at the end of life, including palliative care with large doses of opioids. Pain in MAT patients can sometimes be managed with nonopioid medications, as well as nonpharmacologic approaches, but often the pain is severe and refractory to nonopioid analgesics or nonpharmacologic treatments.

Increased attention to pain control has made even physicians who are not addiction specialists more familiar with the use of methadone in pain treatment, and they also are more likely to understand that methadone should be continued if patients receiving MAT are hospitalized. Reluctance to provide adequate pain treatment to patients in MAT usually is based on the mistaken belief that a maintenance dose of opioid addiction treatment medication also relieves acute pain. In fact, long-term opioid pharmacotherapy produces substantial tolerance for the analgesic effects of opioid treatment medications; therefore, a usual maintenance dose affords little or no pain relief.

Patients receiving methadone maintenance treatment were shown to be hyperalgesic, meaning that they experienced pain more severely than those not receiving methadone. Patients in methadone maintenance also were shown to have high levels of tolerance for the analgesic effects of opioids, suggesting that conventional doses of morphine may be ineffective in managing episodes of acute pain in this patient group.

Another common concern is that opioid-containing analgesics aggravate addiction disorders. In fact, relapse to illicit opioid use has occurred when opioid analgesics are given to people in recovery. Such patients generally should not be given the drugs they abused previously, and patients with current or past opioid addiction should be monitored more closely than those without these problems. Relapse occurs most often when practitioners are unaware of their patients' opioid addiction history.

Occasionally some patients do not meet Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR), criteria for addiction, but they believe they are addicted to pain medication because they are dependent physically as a result of chronic use of these medications. A patient or physician who lacks education about MAT might interpret physical dependence alone (i.e., not psychological addiction) or drug seeking for poorly managed chronic pain as addiction. Ideally, such patients should be referred to pain management specialists. However, the consensus panel recommends that they also be accepted for MAT. Disadvantages of this approach are that regulations and requirements for observed dosing may be onerous and that these patients receive treatment where most patients are opioid addicted, which might not be therapeutic for patients not addicted in the usual sense. If these patients are treated in OTPs, the new regulatory framework allows for up to 1 month of take-home medication, provided evidence of stability and absence of unprescribed drug use exist. This option could reduce markedly the burdens imposed by the earlier, more rigid regulatory framework of OTPs. In smaller communities with no OTPs, such patients might be ostracized from pharmacies or from primary care offices for insisting on proper pain control. Effort should be made to find physicians who will help them manage their pain. Some physicians are willing to accept patients after they have been stabilized by the OTP.

Types of Pain

Examples of conditions, either foreseeable or unplanned, that produce acute pain include traumatic injury, dental procedures, and labor and delivery. A dying patient with lung cancer probably has chronic malignant pain. Patients with arthritis or disc disease might have chronic nonmalignant pain. In addition, patients in MAT might have withdrawal-related pain, usually as aches in bones and joints along with other withdrawal signs and symptoms. Various types of pain are not mutually exclusive. For example, withdrawal, anxiety, and depression make chronic pain worse, and patients with chronic pain may have acute exacerbations of their pain. The most therapeutic intervention for pain depends on its type, community resources, patient preferences, and the extent of services available.

Acute Pain

Patients occasionally require medical, surgical, and dental procedures that must be performed away from the OTP.

One recommended approach to pain management for this group is to prescribe adequate doses of an alternative mu opioid agonist, such as morphine, hydromorphone, or oxycodone, while maintaining the maintenance dose of methadone or LAAM. Partial agonists such as buprenorphine, butorphanol tartrate, and nalbuphine should be avoided because they can cause opioid withdrawal in patients receiving MAT. Whenever possible, pain management should be discussed with care providers before surgery or dental procedures.

Several principles provide the basis for managing acute pain in hospitalized patients also receiving opioid addiction pharmacotherapy:

- Methadone should be continued at the same daily dose, whether by oral or intramuscular routes, although it can be divided. For example, 50 percent of the usual dose can be given before surgery and 50 percent after. If methadone must be given parenterally, the injected dose should be 50 percent of the oral dose, because it is absorbed twice as efficiently by injection.
- LAAM patients can be treated temporarily with equivalent daily methadone doses (usually the 48-hour LAAM dose divided by 1.2), taking into account the timing of the last LAAM dose and its longer acting effects.
- Buprenorphine treatment may have to be suspended temporarily because it can attenuate or block the effects of opioids.
- Hospital physicians should be aware that methadone can be prescribed by any physician with a Drug Enforcement Agency (DEA) registration for treating nonaddiction problems and that maintenance treatment can be continued without a special registration throughout hospitalization, provided that a patient is being treated in a certified and accredited program. For example, when a patient in MAT is admitted for treatment of any disorder other than addiction, Federal regulations indicate that a hospital physician may continue to prescribe maintenance doses of methadone.
- Pain management should be discussed with affected patients, and they should receive assurances that they will be afforded adequate relief.
- Patients' levels of pain should be monitored and, if increases are evident, pain should be treated promptly. Doses of short-acting opioids might have to be administered in addition to maintenance treatment, which is preferable to increased methadone doses for patients in MAT with acute pain. The doses of opioid analgesic required to interrupt pain in these patients can be larger and more frequent than for persons not in MAT because of the higher tolerance of patients in MAT. A patient's previous drug of abuse should not be prescribed for pain treatment. Patient-controlled analgesia can be successful to treat postoperative pain in patients who are opioid addicted, although the increments used should be monitored to minimize the reinforcing properties of the medications.
- Partial agonist or agonist antagonist drugs such as pentazocine, butorphanol tartrate, nalbuphine hydrochloride, and buprenorphine should be avoided in methadone-maintained patients because these agents can precipitate withdrawal symptoms.
- Changeover to nonopioid agents should occur as soon as practical.

- Take-home opioids should be monitored for appropriate use and amounts limited. Patients should be seen at shorter intervals for refills, and prescriptions should specify a fixed schedule rather than "as needed." The actual time of day should be specified, rather than "twice daily" (or "b.i.d.") or "three times daily" ("t.i.d."). Increasing the drug testing frequency also may be advisable to verify that only prescribed medications are taken.
- Hospital physicians should communicate clearly with OTPs about discharge dates and times and the amounts of final methadone doses given in the hospital, to allow maintenance pharmacotherapy to be resumed effectively without interruption and to avoid overmedication.

Chronic Pain

Patients who complain of chronic pain first need a thorough examination to determine and treat the cause of the pain. Some patients may need referral to specialists for testing and treatment. Several options should be tried before a patient receives opioids for pain. Nonopioid pain treatments may be tried, including medications, for example, nonsteroidal anti-inflammatory drugs (which are not without risks--gastrointestinal bleeding is a well-known side effect of chronic use), cyclooxygenase-2 (COX-2) inhibitors, or other pharmacotherapies and physical therapy or surgery. A list of nonpharmacologic approaches to managing chronic, nonmalignant pain is provided in the table below. Unfortunately, many pain centers that provide these treatments hesitate to accept patients taking opioid treatment medications.

Nonpharmacologic Approaches to Managing Chronic Nonmalignant Pain	
Physical Interventions	Psychological Interventions
Cold and heat	Deep relaxation
Ultrasound	Biofeedback
Counterstimulation (TENS*)	Guided imagery
Massage and manipulation	Cognitive behavioral therapy
Stretching and strengthening	Mood disorder treatment
Orthotics, splints, and braces	Posttraumatic stress disorder treatment
Positioning aids (pillows, supports)	Family/relationship therapy
* Transcutaneous electrical nerve stimulation.	

Special consideration is needed to provide opioid therapy for patients in MAT who have chronic, intractable, nonmalignant pain. Studies of patients receiving methadone have found that 37 to 60 percent have chronic pain. Use of opioids to treat chronic pain in this group is controversial because of potential side effects and hyperalgesia. However, withdrawal of patients with chronic pain from maintenance opioids is rarely appropriate and often results in failure to treat both the addiction and the pain disorder. A pain management expert and an addiction specialist should coordinate treatment of patients in MAT, following an extended team approach.

Some OTPs restrict take-home dosing for patients also receiving opioids for pain. The consensus panel believes that such policies are unfair and counterproductive. When a patient in MAT uses opioid pain medications only as prescribed, informs his pain treatment physician of his or her addiction history and participation in MAT, and refrains from abusing substances, long-term use of opioid pain

medication should not disqualify the patient from take-home dosing in MAT. Drug testing can be useful in evaluating the degree to which such patients are complying with treatment regimens although it is not foolproof; urine drug tests, for example, identify only the presence or absence of substances, not the amount taken.

Adjustment of Methadone Schedule

The methadone-dosing schedule to treat pain is three or four times daily or every 6 to 8 hours. Some patients in MAT with chronic pain might benefit from having their daily methadone dosage split for better pain control, which necessitates a take-home schedule for the remaining daily doses. When possible, program guidelines should require that an OTP staff member witness the first dose of the day.

Additional Opioids

Some patients with chronic pain have variable levels of pain or bursts of acute pain as well. For them, prescribing additional doses (or "rescue" doses) of opioid analgesics to manage breakthrough pain may be indicated as part of a comprehensive approach. If so, the amount of rescue medication should be calculated prospectively based on a patient's history. The rescue medication should be monitored, and unannounced drug testing may be indicated to prevent abuse or diversion. A primary care physician or a pain specialist can prescribe rescue medication. If a patient needs frequent rescue medication, then his or her substance abuse treatment medication probably should be increased in lieu of prescribing increasingly higher doses of short-acting opioids. Certain types of pain respond well to anticonvulsant adjuvant medications such as carbamazepine or phenytoin, both of which are potent CYP450 3A inducers that can lead to a sharp reduction in serum methadone levels. Gabapentin, which also is effective in neuropathic pain, does not alter CYP450 3A isoenzymes and therefore does not change methadone levels.

Hospitalization of Patients in MAT

During a medical crisis requiring hospitalization of a patient in MAT, it is important that the OTP physician communicate with the attending physician and other members of the patient's hospital health care team. The hospital team should be informed of the patient's methadone dosage, the date on which methadone was last administered, and the patient's medical, co-occurring, or social problems.

During hospitalization, it is extremely important for the treating physician to understand that a patient in MAT probably will require larger doses of medication for anesthesia and that adequate pain relief might require the patient to receive a normal methadone dose (or its equivalent) plus additional medication, as described earlier in this chapter. Communicating these facts to the hospital team ensures appropriate care. Failure to provide sufficient baseline opioid medication in accordance with previous daily use plus additional medication for anesthesia can lead to inadequate pain relief, even with additional opioids.

In addition, the hospital team should be advised to institute appropriate controls to prevent a patient from obtaining and using illicit substances or abusing

prescription drugs while in the hospital. These controls are especially important for unstable patients in the acute phase of MAT. Such controls include limiting visitors, preventing a patient's wandering through the hospital, and conducting regular drug tests. It usually is helpful to provide psychiatric consultation to medical or surgical staff treating patients in MAT, especially for patients with co-occurring disorders.

Some patients in MAT are hospitalized frequently. For example, a patient on dialysis might require repeated shunt revisions, a patient with chronic lung disease might have pneumonia several times a year, or a patient with cirrhosis might have episodes of variceal bleeding. In such cases, OTP staff members who dispense medications may be in a position to monitor patients to facilitate early treatment.

General Medical Conditions and MAT

As patients become engaged in MAT, they are more likely to take better care of themselves, modify their lifestyles, and participate in the medical follow-up needed to manage common chronic illnesses. In general, their medical care for other conditions should be identical to that given patients not in MAT. Primary care for common medical conditions such as diabetes, hypertension, and COPD can be provided easily in an OTP by nurse practitioners and other staff members working in collaboration with primary care physicians or internists. In some cases, medications for these medical conditions might need adjustment because of interactions with opioid addiction treatment medications.

General advice on diet, exercise, smoking prevention, and stress management should be integrated into MAT, especially if nurse practitioners or physician's assistants are on staff. A comprehensive approach addressing all aspects of patient health facilitates treatment of neglected medical problems. Age- and risk-appropriate medical screening, such as mammograms, sigmoidoscopy, prostate checks, or exercise stress tests, should be discussed with patients during regular examinations. The counseling staff can use printed educational material or videotapes to present this information. Some programs have developed health-related educational videotapes that are played in the waiting room so patients can receive information during daily OTP visits.

CLINICAL ALGORITHM(S)

A clinical algorithm entitled "Hepatitis C Evaluation" is provided in the original guideline document.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

Recommendations are based on a combination of clinical experience and research-based evidence.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate management of medical problems in patients in medication-assisted treatment for opioid addiction (MAT)

POTENTIAL HARMS

Side effects and drug interactions of treatments prescribed for associated medical conditions

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

The opinions expressed herein are the views of the consensus panel members and do not necessarily reflect the official position of Center for Substance Abuse Treatment (CSAT), Substance Abuse and Mental Health Services Administration (SAMHSA), or Department of Health and Human Services (DHHS). No official support of or endorsement by CSAT, SAMHSA, or DHHS for these opinions or for particular instruments, software, or resources described in this document is intended or should be inferred. The guidelines in this document should not be considered substitutes for individualized client care and treatment decisions.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Chapter 14, Administrative Considerations, in the original guideline document, covers the challenging administrative aspects of managing and staffing the complex and dynamic environment of an opioid treatment program (OTP). Successful treatment outcomes depend on the competence, values, and attitudes of staff members. To develop and retain a stable team of treatment personnel, program administrators must recruit and hire qualified, capable, culturally sensitive individuals; offer competitive salaries and benefit packages; and provide good supervision and ongoing training. Implementing community relations and community education efforts is important for opioid treatment programs. Outreach and educational efforts can dispel misconceptions about medication-assisted treatment for opioid addiction and people in recovery. Finally, the chapter provides a framework for gathering and analyzing program performance data. Program evaluation contributes to improved treatment services by enabling administrators to base changes in services on evidence of what works. Evaluation also serves as a way to educate and influence policymakers and public and private payers.

Refer to Chapter 14 in the original guideline document for full details (see "Companion Documents" field in this summary).

IMPLEMENTATION TOOLS

Clinical Algorithm
Quick Reference Guides/Physician Guides

For information about [availability](#), see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Associated medical problems in patients who are opioid addicted. In: Batki SL, Kauffman JF, Marion I, Parrino MW, Woody GE, Center for Substance Abuse Treatment (CSAT). Medication-assisted treatment for opioid addiction in opioid treatment programs. Rockville (MD): Substance Abuse and Mental Health Services Administration (SAMHSA); 2005. p. 161-78. (Treatment improvement protocol (TIP); no. 43).

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GUIDELINE COMMITTEE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available from the [National Library of Medicine Health Services/Technology Assessment \(HSTAT\) Web site](#). Also available in Portable Document Format (PDF) from [SAMHSA's National Clearinghouse for Alcohol and Drug Information \(NCADI\) Web site](#).

Print copies: Available from the National Clearinghouse for Alcohol and Drug Information (NCADI), P.O. Box 2345, Rockville, MD 20852. Publications may be ordered from [NCADI's Web site](#) or by calling (800) 729-6686 (United States only).

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Executive summary. Medication-assisted treatment for opioid addiction in opioid treatment programs. p. xvii-xx. (Treatment improvement protocol (TIP); no. 43).
- Introduction. Medication-assisted treatment for opioid addiction in opioid treatment programs. p. 1-10. (Treatment improvement protocol (TIP); no. 43).
- History of medication-assisted treatment for opioid addiction. Medication-assisted treatment for opioid addiction in opioid treatment programs. p. 11-23. (Treatment improvement protocol (TIP); no. 43).
- Pharmacology of medications used to treat opioid addiction. Medication-assisted treatment for opioid addiction in opioid treatment programs. p. 25-42. (Treatment improvement protocol (TIP); no. 43).
- Administrative considerations. Medication-assisted treatment for opioid addiction in opioid treatment programs. p. 225-240. (Treatment improvement protocol (TIP); no. 43).
- Appendix D: Ethical considerations in MAT. Medication-assisted treatment for opioid addiction in opioid treatment programs. p. 297-304. (Treatment improvement protocol (TIP); no. 43).

Electronic copies: Available from the [National Library of Medicine Health Services/Technology Assessment \(HSTAT\) Web site](#). Also available in Portable Document Format (PDF) from [SAMHSA's National Clearinghouse for Alcohol and Drug Information \(NCADI\) Web site](#).

The following are also available:

- Knowledge Application Program. KAP keys for clinicians. Based on TIP 43: Medication-assisted treatment for opioid addiction in opioid treatment programs. Rockville (MD): Substance Abuse and Mental Health Services Administration (SAMHSA); 2005. 20 p. Electronic copies: Available in Portable Document Format (PDF) from the [SAMHSA Web site](#).

- Quick guide for clinicians. Based on TIP 43: Medication-assisted treatment for opioid addiction in opioid treatment programs. Rockville (MD): Substance Abuse and Mental Health Services Administration (SAMHSA); 2005. 39 p. Electronic copies: Available in Portable Document Format (PDF) from the [SAMHSA Web site](#).

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on December 27, 2005. The information was verified by the guideline developer on January 23, 2006.

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